REMARKS

This amendment, Paper Dated August 5, 2005, is submitted in response to the Official Action dated May 4, 2005.

The Specification

No amendments to the specification have been made.

The Claims

The Claim Objection – Duplicate Claim Warning

Applicant acknowledges the warning and claim 11 has been amended to depend from claim 8 vs. claim 1. Therefore, the duplicate claim objection has been overcome.

35 USC § 112, first paragraph

Claims 5, 7, 9, 14, and 16 stand rejected under 35 USC § 112, first paragraph as failing to comply with the written description requirement. Examiner asserts that the claims contain subject matter that was not described in the specification in such a way so as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Examiner asserts that Applicant has failed to provide *any* teachings or description of the fatty acids in the composition, *or* the reason for their inclusion. (Emphasis added.) Examiner states that a sole sentence in the specification teaches that inclusion of fatty acids may be necessary for the treatment of CVOC plumes that exist under strictly anaerobic conditions (at Pg. 11). Examiner goes on to state that no teachings on their effect, either directly or through incorporation by reference, is provided.

Applicant respectfully traverses these rejections, and respectfully asserts that the Examiner is incorrect. At page 7, lines 14-17 Applicant explains how fatty acids work and their effects: "The biostimulant should also be biologically degradable to yield *fatty acid* metabolites, which can be fermented to hydrogen under *anaerobic conditions. These fermentation products, most notably hydrogen, drive reductive halogenation.*" (Emphasis added.) The above teaching certainly explains to one skilled in the art what fatty acids do in anaerobic dehalogenation processes.

In addition, when Applicant is describing how Lactose is used, at Page 9, starting at line 3, Applicant again discusses the role of fatty acids: "Lactose is readily fermented to yield *Lactic Acid* ($CH_3CHOHCO_2H$), which can be further fermented to hydrogen, *the electron donor driving CVOC reductive dehalogenation.*" (Emphasis added.)

At the bottom of Page 8, into Page 9 Applicant explains that Lactose has a five-day biochemical oxygen demand of about 45 grams per liter. Therefore, one of ordinary skill would understand to use Lactose if oxygen is present, and one wants to remove the oxygen, and, in the process, convert Lactose to the fatty acid Lactic Acid.

At the end of the Specification is the sentence to which Examiner refers, and which states that under *strictly anaerobic* conditions, *already depleted of common terminal electron acceptors*, it might become necessary to include fatty acids such as Lactic Acid.

One of ordinary skill in the art would certainly understand the reason and role of going straight to the use of fatty acids such as Lactic Acid versus starting with the sugar, Lactose. First, there is no need for the sugar to remove the oxygen – the conditions are already anaerobic in this scenario. Secondly, if the conditions are already anaerobic, the Lactose, if it were used, would not be broken down to Lactic Acid which is the next necessary metabolite, as explained on Page 7, because there would be no available oxygen.

Excessive explanation of basic, background science is not necessary in a patent application. If the audience is "one of ordinary skill in the art", then the level of explanation necessary is that which would be understood by one of ordinary skill in the art. The explanations of the chemistry provided in Applicant's Specification would certainly provide one of ordinary skill in the art the ability to understand why one would use fatty acids such as Lactic Acid when a CVOC plume is already under anaerobic conditions. Applicant requests that Examiner review Pages 7-9 of the Specification.

How, why, and to what effect fatty acids would be used in the treatment of CVOC plumes that exist under strictly anaerobic conditions, as claimed, is clearly explained to one skilled in the art, at multiple locations in the specification. Therefore, Applicant respectfully requests withdrawal of these rejections. No amendments to the specification have been made, and therefore, no new matter has been added.

35 USC § 112, second paragraph

Claim 13 stands rejected under 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 13 has been amended to delete the word "further". The biodegradable sugar is selected from those sugars listed. Therefore, Applicant respectfully requests withdrawal of the rejection. No new matter has been added.

35 USC § 102(b)

Claims 1, 5-7 and 12-14 stand rejected under 35 USC § 102(b) as being anticipated by US Patent No. 5,756,132 to Rebhan. Applicant respectfully traverses these rejections.

Examiner asserts that Rebhan teaches a dry, water-dispersible milk replacement for calves, comprising brewer's yeast, dextrose, lactose, lard, and vegetable fats (which Examiner says Applicant calls fatty acids and vegetable oils). Examiner then asserts that although Rebhan does not teach the milk replacement as a biological stimulant for use in bioremediation, the composition comprises the same ingredients as claimed in the current application, and that therefore it inherently has the same electron donor properties as the claimed biological stimulant without evidence to the contrary. The Examiner then cites MPEP section 2111.02 for the principle that if the body of a claim fully and intrinsically sets forth all limitations of the claimed invention, such as al the components of a composition, *and the preamble merely states the intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations*, the preamble is not considered a limitation and is of no significance to claim construction (emphasis added).

Applicant respectfully disagrees with Examiner's assessment of the claims and the preamble, in addition to the assessment of the composition. With respect to what the Examiner says is in Applicant's composition, there is never any lard. Examiner say the "lard and vegetable fats" of Rebhan are what Applicant calls "fatty acids and vegetable oils". According to the Miriam Webster dictionary, lard is a soft, white solid or semi-solid fat obtained by rendering fatty tissue of the hog. According to the BioTech Life Science dictionary, fat is a glyceride of fatty acids and is solid or semi-solid, as distinguished from an oil. Thus, fatty acids are components of fats but fatty acids are not fats. Applicant never uses a solid or semi-solid fat such as lard. Examiner equates lard and fatty acids, and while fatty

acids are a component of lard or fat, they are not the same thing as lard or fat. Thus, Examiner mischaracterizes Applicant's composition with respect to fat or lard.

Secondly, with respect to MPEP section 2111, under the section for Preamble Statements Reciting Purpose or Intended Use, Examiner focuses on the quote from the Pitney Bowes case. However, in the Jansen case, the court held that the preamble was not merely a statement of effect that may or may not be desired or appreciated, but rather is a statement of *the intentional purpose for which the method must be performed* (emphasis added). Thus, the claim was interpreted to mean that the vitamin preparation must be administered to a human with a recognized need to treat or prevent pernicious anemia.

The preamble must be read in the context of the entire claim. In the present application, the situation is much more akin to Jenkins than to Pitney Bowes. The preamble does not, as Examiner asserts, merely state the intended use, rather than any distinct definition of any of the claim's limitations. The preamble of claim 1 clearly states that the composition is used in a specific set of chemical reaction methods – enhanced reductive dehalogenation, and specifies the method – electron donation. The preambles of both claim 1, and claim 12 as amended, define the specific chemical reactions that must occur using the compositions of the invention. There is nothing in Rebhan, nor in calves, that indicates the nutrition processes of the Rebhan compositions involve reductive dehalogenation. In fact, most probably no such chemical reactions occur in the calves. Thus, the preambles of both claims 1 and 12 give life and meaning to the claims – that the compositions of the present invention perform reductive dehalogenation reactions that are simply not present, used, or needed in calf feeding. The preambles provide the intentional purpose, and the specific chemical reactions, for which the compositions of the invention are used. Therefore, reductive dehalogenation using the compositions of the present invention is not disclosed by Rebhan and Applicant's claims are not anticipated by Rebhan.

In addition, with respect to Examiner's inherency argument, the Examiner must provide a rationale or evidence tending to show inherency. See MPEP section 2112. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. Examiner provides no such required rationale, but simply states that the composition of Rebhan has the same electron donor properties as that of the present invention, without evidence to the contrary.

In considering the entire claims 1 and 12, including the preambles, there simply would be no reductive dehalogenation reactions occurring in the calves, thus, the chemical processes involved are totally different, and the reductive dehalogenation is not inherent in the teachings and disclosure of Rebhan.

Therefore, because the calf feed of Rebhan is not the same and does not function with the same chemical reaction methods as the reductive dehalogenation compositions of the present invention, Rebhan does not anticipate the present invention and Applicant respectfully requests that the rejections be withdrawn. No new matter has been added.

Claims 1 and 2 stand rejected under 35 USC § 102(b) as being anticipated by Kanebo Ltd. (JP 06219936). Examiner asserts that Kanebo discloses a cosmetic material comprising oligosaccharides and yeast. Then Examiner states: "...wherein the oligosaccharide can be lactose or sucrose, and the yeast *is Saccaromyces* (Brewer's Yeast)(See Abstract)." (Emphasis added.)

Applicant respectfully traverses this rejection. *Nowhere* in the Abstract does it say anything *whatsoever* about what sugar, what form of sugar, what yeast or form of yeast may be used, or why. Applicant has no idea where Examiner comes up with the type of sugar or type of yeast. There is no such teaching in the Abstract. The Abstract ONLY says "oligosaccharide" and "yeast". Applicant cannot fairly address an element if it is not there, and Examiner can not make a rejection based on an element that is not present in the cited reference.

Applicant respectfully requests withdrawal of the rejection. There can be no anticipation if all of the elements of the invention are not disclosed in the reference, and there is NO disclosure whatsoever regarding the type of sugar or yeast. Examiner seems to have come up with the type of sugar and yeast. But, unless the entire reference is read, there is no way to tell from the Abstract whether the specific, claimed, sugars and yeast of the invention are disclosed by the reference. It is possible that the reference even teaches away from brewer's yeast or a particular sugar. We do not know. But, it cannot be proper to make a rejection based on something that is not disclosed. Therefore, Applicant respectfully requests withdrawal of the rejection, because all of the elements of the invention are NOT disclosed in the Abstract. In fact, we do not know and cannot tell what is disclosed in the reference.

Certainly lactose, sucrose and *Saccaromyces* are not articulated in the Abstract. Therefore, the rejection cannot stand.

35 USC § 103(a)

Claims 1-4, 11-13 and 17-18 stand rejected under 35 USC § 103(a) as being unpatentable over Keasling et al, US Pat. No. 6,150,157.

Examiner, asserts that Keasling et al. teach a biological stimulant composition for the reductive dehalogenation of organic halides in contaminated groundwater comprising a carbohydrate and a reductive dehalogenation factor in the form of a nutrient extract. The carbohydrate can be lactose, sucrose, or glucose. The reductive dehalogenation factor can be yeast extract.

Examiner then asserts, though Keasling et al. only teach yeast extract, and NOT brewer's yeast, that it would have been obvious to one of ordinary skill in the art to use whole yeast cultures instead of yeast extracts to reduce processing steps and costs.

Examiner also asserts that one would expect success using brewer's yeast because Keasling et al. teach the genus, yeast, and that therefore all species of yeast comprise the desired reductive dehalogenation factors, as no evidence of unexpected results has been provided.

In addition, though Keasling et al. do not teach anything about specific concentrations or ratios, and though there is only this single reference's teaching, Examiner asserts that concentrations and ratios would be routinely optimized by one of ordinary skill in the art.

Initially, Applicant points out that claim 11 has been amended and now depends from claim 8. Thus, claim 11 is no longer subject to these rejections, and Applicant requests withdrawal of the rejection of claim 11.

With respect to the rest of the claims under this rejection, Applicant disagrees with Examiner's assessment of Keasling et al. Examiner correctly points out that Keasling et al. use yeast *extract* vs. brewer's yeast. Yet Examiner maintains that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use whole yeast cultures instead of extracts to reduce processing steps and costs. However, in Keasling et al. there is no suggestion whatsoever, to ever use anything other than an extract. Every time a "nutrient extract" is mentioned, and not only with respect to yeast, an *extract* is specifically mentioned. There must be some suggestion in the reference for the modification and there is

none. In fact, Keasling et al. go into a fair amount of detail, at Column 4, lines 58-68, as to what types of extracts are preferred and why, and how they are preferably processed, with sterilization by heat or irradiation. It is possible that such treatment would kill live yeast cultures. Thus, in this way, Keasling et al. specifically teach away from using whole brewer's yeast. Brewer's yeast has certainly been in existence and has been known for many hundreds of years, yet Keasling et al. specifically leave out the use of whole yeast. They prefer, teach and suggest ONLY extracts for their invention.

In addition, because they do not include whole yeast, nor any whole nutrients, they do not teach anything with respect to how such a preparation would be made or used, or the specific amounts of a composition containing whole live yeast cultures. Examiner makes the leap that from the teachings of Keasling et al. one of ordinary skill would find the suggestion and motivation to use whole brewer's yeast AND be able to optimize the amounts. There is simply no teaching or suggestion whatsoever in Keasling et al. that would lead one to use anything other than extracts, much less lead them to the optimum amounts of anything other than extracts.

Also, Keasling et al. are not interested in using intact yeast cells with intact cell walls. They do not teach or suggest any reason or motivation for delaying the degradation rate of their desired composition. In fact, they talk about "efficient" dehalogenation. They do not teach or suggest any reason for delayed action by their compositions. In fact, at Column 6, lines 29-31 they specifically say that their method "...is used to effect complete reduction, or enhance the efficiency of *or expedite the rate of* reductive dehalogenation." (Emphasis added). They therefore, teach away from delayed use or release of their composition. They want to get the degradation going quickly. Thus, they actually and specifically provide motivation and suggestion NOT to use brewer's yeast with its intact cell walls and its necessarily longer time to useful reaction! Therefore, one would NOT expect "success" according to Keasling et al. if one used whole yeast cells. Using whole yeast cells would not provide the successful, "efficient" and "expedited rate" of dehalogenation desired by Keasling et al.

With respect to the concentrations, Examiner basically makes a "double leap" – first leaping to whole brewer's yeast, which Keasling et al. specifically do not teach, and in looking at their desired results, actually teach away from – and secondly leaping to the concentrations. As shown above, Keasling et al. teach away from using whole brewer's yeast. Therefore, they provide no teaching or suggestion, motivation, or expectation of success for any composition

using whole brewer's yeast including how much time delay in reaction might be desirable for one using brewer's yeast, how to calculate such delayed release based on cell wall breakdown, or how to figure that into the proper amounts. Yes, Keasling et al. note that the amounts of sugars and nutrient *extracts* can be optimized. But, because they specifically do not use, nor intend or teach the use of whole brewer's yeast, they teach nothing about how one might use whole brewer's yeast or determine the optimum concentrations.

If Examiner is relying on the general knowledge of one of ordinary skill in the art, that knowledge must be capable of instant and unquestionable demonstration of being well known. Yes, brewer's yeast is well known, but it is not instant and unquestionable that one of ordinary skill in the art, using only the general knowledge of the existence of brewer's yeast and the teachings of Keasling et al., would come up with Applicant's invention. Keasling et al. specifically chose NOT to use whole brewer's yeast, and therefore the general knowledge of one in the art would not be to use brewer's yeast.

To render an invention obvious, a reference must suggest or motivate one to make the invention in question, which, as explained above, Keasling et al. do not; there must be a reasonable expectation of success, which based on Keasling et al.'s teachings of wanting "efficient" and "expedited rate" dehalogentaion there is not; and finally the reference must suggest ALL the claim limitations. Keasling et al. simply do not suggest, and in fact teach away from using brewer's yeast. The teaching and expectation must be found in the prior art, not in the Applicant's disclosure and Keasling et al. simply do not lead one to use or have expectation of success using brewer's yeast. Keasling et al. want "efficient" degradation at an "expedited rate" in preferably already anaerobic conditions. They stay away from brewer's yeast for those reasons, thus teaching away from using brewer's yeast. To Keasling et al. the slow action of brewer's yeast would NOT be desirable in bioremediation.

In addition, Keasling et al. do not generally disclose all yeasts by disclosing yeast extract. As explained above, Keasling et al. go to a fair amount of effort and detail to point out that they specifically use extracts, as nutrient extracts, NOT all possible forms and types of yeast, but specifically yeast extract for given reasons. Thus, simply because the word "yeast" is used in "yeast extract" does not teach use of all and any form of yeast. As noted above, they specifically stay away from whole brewer's yeast, and give reasons for their preferred use of extracts, not whole materials or cells.

Also, Examiner cites the MPEP for case law saying that discovery of a previously unappreciated property of the prior art ...does not render the old composition patentably new to the discoverer. Such reasoning is inapplicable here because the compositions at issue are not the same. Brewer's yeast is not yeast extract. As Examiner points out, brewer's yeast has intact cell walls, and thus reacts, and is processed and functions totally differently than does yeast extract. Therefore there is no "old composition" at issue. There are two different compositions at issue. Thus, that "unappreciated property" reasoning does not apply.

Examiner appears to use Applicant's disclosure of intact cell walls providing slower, sustained reaction capability to provide the obviousness rejection and, using the reasoning above considers brewer's yeast to be exactly the same as yeast extract, which it is not. Keasling et al., though brewer's yeast was a known material at the time, specifically chose NOT to use brewer's yeast.

Applicant's use of brewer's yeast is thus an improvement over Keasling et al.'s use of ONLY and specifically yeast extract. Below are some of the reasons that the brewer's yeast formulation represents a significant improvement over a yeast extract formulation. As noted above, Keasling et al., who ONLY included a yeast *extract* formulation, would appear to be a more knowledgeable than ordinary practitioners in enhanced reductive dehalogenation. Most ordinary practitioners are environmental consultants who are not involved in basic research, but rather select/use remedial additives using an observational approach. Keasling et al. were involved with basic research, which would set them above ordinary practitioners. The fact that they specifically did not propose a brewer's yeast formulation, (and spent a fair amount of detail on why they use extracts) establishes that a brewer's yeast formulation would not be apparent to "someone of ordinary skill in the art ". At the very least, (even if one assumes Keasling et al. are ordinary practitioners, which they most likely are not), the fact that they proposed a yeast extract component and not a brewer's yeast formulation indicates that the brewer's yeast formulation would not be apparent or desirable to "someone of ordinary skill in the art ".

Also, according to Applicant's knowledge, there are no other reported enhanced reductive dehalogenation methods involving the use of brewer's yeast either as a stand-alone remedial additive or a bulk fraction of a remedial additive formulation for enhancing reductive dehalogenation. For example, an Internet search by the Applicant using Google (http://www.google.com) and incorporating the exact phrases "brewer's yeast" and "reductive dehalogenation" only yielded three hits, none of which referenced the use of brewer's yeast to

enhance reductive dehalogenation. Comparatively, a revised Google search using the exact phrases "yeast extract" and "reductive dehalogenation", achieves 286 hits, many of which reference the specific use of yeast *extract* for enhancing reductive dehalagenation. Another Internet search using AskJeeves (http://www.askjeeves.com) and also incorporating the exact phrases "brewer's yeast" and "reductive dehalogenation" only yielded two hits. Of the two hits listed by this search engine, only one discussed the use of brewer's yeast for this application (reductive dehalogenation) (http://pubs.acs.org/subscribe/journals/esthag-w/2002/mar/tech/rp_tce.html). That article, published by Environmental Science & Technology, references a site located in Salem, New Hampshire where brewer's yeast is being used to enhance reductive dehalogenation. That article reports Applicant's work. Applicant also performed nine other Internet searches using other search engines including http://www.yahoo.com, http://www.excite.com, http://www.lycos.com, http://www.hotbot.com, http://www.mamma.com, http://www.teoma.com, http://www.metacrawler.com, http://www.allsearchengines.com, and http://www.altavista.com using the same key word phrases with similar results. By revising the exact keyword phrases to "yeast extract" and "reductive dehalogenation", signficantly more hits are reported demonstrating that the general and wide-spread knowledge, wisdom, teaching, and standard of the prior art involves a yeast *extract* formulation, and NOT a brewer's yeast formulation. In addition, Applicant moderates the Bioremediation Discussion Group (BioGroup, http://www.bioremediationgroup.org) on the Internet, which includes over 5,000 subscribers among the bioremediation practitioners worldwide. Applicant searched ALL of the internet posts by that group since its beginning in 1996, which includes nearly 6,000 posts, and there was not a single reference to using brewer's yeast to enhance chlorinated solvent reductive dehalogenation. Therefore, it is apparent that Applicant's brewers' yeast formulation is not apparent to "someone of ordinary skill in the art", based either on Keasling et al. and/or the general knowledge of one skilled in the art – which is that yeast extract is to be used in reductive dehalogenation. Thus, Applicant does not "just" claim a new function or unknown property which is inherently present in the prior art (the properties and reactions of brewer's yeast are not in the prior art because the prior art does not use brewer's yeast), or discover a previously unappreciated property of a prior art composition (the invention is NOT a prior art composition).

Brewer's yeast was chosen for its specific properties and reaction capabilities that simply are not present or possible with extracts. First brewer's yeast is an improvement because its cell

walls are intact, which imparts a much lower rate of biological degradation than that of yeast extract. These rates and reactions were not considered or important to Keasling et al. They wanted fast degradation. And these are not just "undiscovered inherent properties". Applicant's combination specifically allows the lactose component to react first, scavenging terminal electron acceptors (TEAs) and effecting anaerobic conditions (Keasling et al. specifically state that their preferred conditions are already anaerobic. They don't teach how to optimally *create* anaerobic conditions. With Applicant's invention, the bulk of the brewer's yeast is preserved for driving reductive dehalogenation, rather than being consumed by mineralization. With Keasling et al. the sugar and yeast extract are consumed at the same time. Second, like yeast extract, brewer's yeast is a complex source of organic carbon and nitrogen for stimulating microbial activity. BUT, given the intact cell walls, brewer's yeast has greater adsorption capacity onto the contaminated formation than does yeast extract and can be constrained well within the desired anaerobic treatment zone where it will drive reductive dehalogenation instead of largely being consumed initially by mineralization as is the case with yeast extract. The additional adsorption capacity, combined with the lower biodegradability, also gives brewer's yeast greater residence time in the groundwater system. Thus, the brewer's yeast has separate and different properties that yeast extract does not. In addition, the very specific teachings of Keasling et al. for use of yeast extract when brewer's yeast is a known substance teaches away from obviousness because, though brewer's yeast was known, Keasling et al. specifically do not use it, do not teach, disclose or suggest it, nor provide any motivation or expectation of success for using it.

Therefore, based on the teaching away from brewer's yeast by Keasling et al. and the lack of general information in the public field of bioremediation and reductive dehalogenation, Applicant's invention is not obvious and Applicant respectfully requests withdrawal of the rejections.

Claims 5-10 and 14-16 stand rejected as being unpatentable over Keasling et al. (US Pat. No. 6,150,157) in view of Hince (US 2002/0090697). Applicant respectfully traverses these rejections.

Examiner asserts the same things in these rejections as in the rejections above. In addition, Examiner asserts that although Keasling et al. do not teach vegetable oil or fatty acids, and nor does their composition have reduced aqueous solubility (nor do they teach or suggest any motivation or reason for having or wanting reduced aqueous solubility), Hince teaches a

solid-chemical composition for bioremediation that does include both vegetable oil and fatty acids.

Examiner asserts that Hince teaches that the fatty acids, which are included in salt form, promote the growth of a more diverse range of microorganisms. Examiner then asserts that therefore, one of ordinary skill would have been motivated to include fatty acids in the composition of Keasling et al., and would have expected success because Hince teaches that inclusion of fatty acids in a similar composition promotes the growth of diverse microorganisms.

Examiner asserts that Hince also teaches insoluble polymers that coat a portion of the composition so as to reduce aqueous solubility, causing the coated portion to biodegrade slowly, thereby sustaining release over time. Examiner then makes the jump that because Hince teaches vegetable oils as merely lubricants, NOT as coating materials, it would have been obvious that the vegetable oil could dually function as an insoluble substrate coating and a lubricant.

Therefore, Examiner asserts that it would have been obvious to also include vegetable oil in the composition of Keasling et al. in order to coat a portion of the lactose, glucose (dextrose), or sucrose and brewer's yeast composition in vegetable oil so as to reduce the aqueous solubility, that one would have been motivated to do so in order to sustain release over time, and that one would have expected success because the vegetable oil coated particles will eventually be solubilized and available for reductive dehalogenation and that the vegetable oil will not further contaminate the soil.

Examiner then concludes that the invention as a whole, comprising the biological stimulant of Keasling et al., modified to include both fatty acids and vegetable oils, as taught by Hince would have been *prima facie* obvious.

First of all, Examiner incorrectly characterizes Keasling et al. by stating "...in order to coat a portion of the lactose, glucose (dextrose), or sucrose *and brewer's yeast composition...*". There is NO brewer's yeast, very intentionally and purposefully, in Keasling et al. Thus, Keasling et al. combined with Hince does not teach all the elements of Applicant's invention and not result in Applicant's invention.

The references must teach or suggest all of the claim limitations, and they simply do not. As discussed at length above, Keasling et al. specifically do NOT lead one to the use of brewer's yeast. The fact that brewer's yeast has been known for centuries, and *could* potentially have been chosen but was not, would lead one to the conclusion that brewer's yeast is NOT suitable for the Keasling et al. composition for reductive dehalogenation!

With respect to Hince, it is specifically directed to solid compositions, preferably produced, *and applied*, in the form of granules, briquettes, pellets, tablets and capsules. The present invention is either a liquid (high aqueous soluble form of large volumes of water containing the composition in dissolved form) or low aqueous forms (smaller volumes of water containing the composition in slurry form). Nowhere does the present invention contemplate application of solid granules or pellets that would need lubrication. In addition, nowhere does Hince teach that the vegetable oil would slow lactose dissolution. Hince only says that in addition to their primary functions as lubricants and glidants, they (the lubricants and glidants) are "compatible with" and "complimentary to" the other organic substrates included in the disclosed solid-chemical compositions. There is no teaching whatsoever in Hince that such oils could be used to coat the sugars to delay their dissolution. Thus, based on the lack of teaching in Hince, there is no expectation that one would succeed in coating sugars with vegetable oil for delayed dissolution. Keasling et al. and Hince have different compositions in different forms, both of which are different than Applicant's compositions and which together do not suggest Applicant's combination of lactose, brewer's yeast, fatty acids and vegetable oils. In fact, specifically neither Keasling et al. or Hince teach brewer's yeast, though it is a known compound, and in theory they COULD have chosen it but did not. Thus their purposeful exclusion of brewer's yeast effects a teaching away, in the art, from using brewer's yeast. In addition, though Hince says that the vegetable oil is "compatible" with the composition and will not contaminate the soil, it is specifically NOT included as part of the composition as a coating for any of the components. Hince did not feel it was necessary or useful to coat his particles, because he used other compounds to achieve different rates of dehalogenation. Hince uses sugars, for immediate fast breakdown, then uses more complicated starches and other compounds for slower breakdown and action – never once mentioning vegetable oil. Hince does not need, NOR WANT vegetable oil to coat his sugars. He uses other compounds that are broken down more slowly for differing, extended rates of dehalogenation. Hince WANTS uncoated sugars for fast initial reaction. Thus, Hince teaches away from coating sugars to delay their reaction. Also, vegetable oil is a known compound, which Hince recognized as "compatible" but which he specifically chose NOT to include as part of his composition. Hince specifically does not coat his sugars because he wants and needs some simple, easily broken down compounds for initial reactions.

Because Hince does not teach vegetable oil as a part of the composition, and in fact, refuses to do so, as there is no need and specifically no purpose for doing so with his compositions (he does not want his sugars coated), Hince effectively teaches away from including vegetable oils as part of the composition, thus providing NO suggestion, motivation or expectation of success.

With respect to the fatty acids, even inclusion of fatty acids to the composition of Keasling et al. would not result in Applicant's invention. Discussed above, Keasling et al., teach away from using brewer's yeast. Therefore, in looking at the invention as a whole, neither Keasling et al. nor Hince, either alone or in combination teach the specific compositions of the invention. Simply because all of the elements of an invention are separately known does not mean that their combination is not patentable. In this case, Applicant's unique combination of elements is not taught or suggested by either Keasling et al. or Hince.

Therefore, because neither Keasling et al. nor Hince, either alone or in combination, teach or suggest all of the elements of the claimed invention, the claimed invention is not obvious to one of skill in the art and Applicant respectfully requests withdrawal of the rejections.

Conclusion

Applicant has amended claim 11 to depend from claim 8 and thus the duplicate claim objection has been overcome. Applicant has pointed out the various locations in the specification where explanation, understandable by one of ordinary skill in the art, has been provided with respect to the inclusion of fatty acids. Thus, the 35 USC §112 first paragraph rejections have been overcome. Applicant has deleted the word "further" from claim 13. Thus, the 35 USC §112 second paragraph rejection has been overcome. Applicant has specifically pointed out how and which elements of the present invention differ from those of Rebhan. Thus, those 35 USC §102 rejections have been overcome. Applicant has pointed out that the Abstract of the Japanese reference does NOT disclose ANY particular sugar or yeast as Examiner somehow cites. Thus, that 35 USC §102 rejection is not proper. Finally, because Applicant has specifically pointed out and explained how neither Keasling et al. nor Hince, either alone or in combination, teach or suggest all of the elements of the claimed invention, the claimed invention is not obvious to one of skill in the art and the 35 USC §103 rejections have been overcome. Therefore, Applicant respectfully requests reconsideration of the Application, and withdrawal of the rejections such that the application is now in condition for

allowance. Applicant respectfully welcomes any input or suggestion from Examiner and will work with Examiner towards allowance of this case. Any fees due in connection with this response are included herewith.

Respectfully submitted,

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